

SERVICE MANUAL


STEREO CASSETTE PLAYER

BASIC TAPE MECHANISM : 6ZM-2 P9NF

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-001-410-9T2).

SPECIFICATIONS

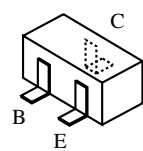
Maximum output:	4 mW + 4 mW (EIAJ/16 ohms)
Load impedance:	16 – 32 ohms
Power source:	DC 1.5 V using an R6 (AA) dry cell battery, AC house current using the optional AC adaptor
Battery life	
(EIAJ 1 mW output):	Aprox. 30 hours using an LR6 (AA) alkaline battery
Maximum dimensions:	110 (W) x 79.2 (H) x 26.6 (D) mm (4 ³ / ₈ x 3 ¹ / ₈ x 1 ¹ / ₁₆ in.)
Weight:	Approx.132 g (4.6 oz) (excluding batteries)

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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ACCESSORIES / PACKAGE LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8Z-HKD-912-010	IB,YH(ECC) S<YH>	
1	8Z-HKD-915-010	IB,Y(EGFSI) S GMX1000<Y>	
1	8Z-HKD-916-010	IB,Y(EDPHNCZ) S GMX1000<Y>	
2	87-B30-253-010	HEADPHONE,HP-M041	
2	8Z-HK6-952-010	RC,UNIT RC507	

TRANSISTOR ILLUSTRATION



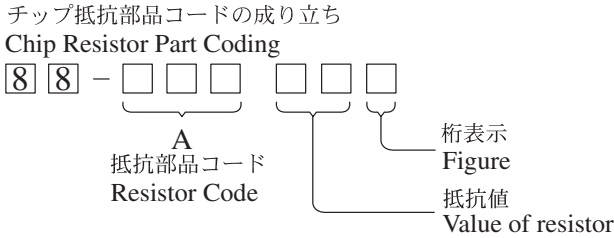
RN1310	2SA1362
RN1311	2SC3326
RN2307	DTA144TU
RN2310	DTC144TU

ELECTRICAL MAIN PARTS LIST


REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION	REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
IC				C148	87-016-562-080		C-CAP,TN 4.7-10
	87-A21-174-010		C-IC,TA2103F	C149	87-016-286-080		C-CAP,TN 2.2-6.3 F93
	87-A20-961-040		C-IC,MM1279XV	C150	87-016-562-080		C-CAP,TN 4.7-10
	87-A20-785-080		C-IC,S-81215SG-QK-T1	C151	87-010-784-080		C-CAP,U 0.012-25 B
	8Z-HK6-605-010		C-IC,MSM6576-99-GS-K	C152	87-010-784-080		C-CAP,U 0.012-25 B
TRANSISTOR				C153	87-A11-056-080		C-CAP,U 1-10 Z F
	89-113-625-080		C-TR,2SA1362GR	C154	87-A11-056-080		C-CAP,U 1-10 Z F
	87-026-352-080		C-TR,DTC144TU	C401	87-012-286-080		CAP, U 0.01-25
	87-026-428-080		C-TR,RN2310	C402	87-012-286-080		CAP, U 0.01-25
	87-026-418-080		C-TR,RN1311	C403	87-012-286-080		CAP, U 0.01-25
	89-333-266-080		C-TR,2SC3326B	C405	87-A10-707-080		C-CAP,U 0.47U-16 F Z
	87-026-425-080		C-TR,RN2307	C406	87-A10-025-080		C-CAP,U 0.22-16Z F
	87-026-337-080		C-TR,DTA144TU	C407	87-A10-263-080		C-CAP,U 0.1-16ZF
	87-026-417-080		C-TR,RN1310	C408	87-A11-063-080		C-CAP,S 4.7-10 Z F
				C409	87-A10-260-080		C-CAP,U 0.1-16 K B
DIODE				C701	87-010-746-080		CAP, TANTAL 10-4
	87-A40-642-040		C-DIODE,1SS367	C702	87-010-746-080		CAP, TANTAL 10-4
				C703	87-A10-263-080		C-CAP,U 0.1-16ZF
				C801	87-A11-056-080		C-CAP,U 1-10 Z F
				C802	87-A11-056-080		C-CAP,U 1-10 Z F
MAIN C.B				C803	87-A11-056-080		C-CAP,U 1-10 Z F
	C101	87-012-273-080	C-CAP,U 820P-50 B	C805	87-010-274-080		C-CAP,TN 3.3-4
	C102	87-012-273-080	C-CAP,U 820P-50 B	C807	87-012-274-080		CHIP CAP,U 1000P-50B
	C103	87-012-273-080	C-CAP,U 820P-50 B	C808	87-A10-263-080		C-CAP,U 0.1-16ZF
	C104	87-012-273-080	C-CAP,U 820P-50 B	C901	87-A11-056-080		C-CAP,U 1-10 Z F
	C105	87-016-286-080	C-CAP,TN 2.2-6.3 F93	C902	87-010-822-040		CAP,E 220-4 M MJ
	C106	87-016-286-080	C-CAP,TN 2.2-6.3 F93	J101	87-099-575-010		JACK,3.5BLK ST W/O SW 5P
	C107	87-016-114-080	C-CAP,U0.01-25B	J901	87-A60-319-010		JACK,DC DIA 2.75
	C108	87-016-114-080	C-CAP,U0.01-25B	LED601	87-A40-643-040		C-LED,SML-211UT
	C109	87-010-828-080	CHIP CAPACITOR,U 0.033-	PS501	87-A90-526-010		SNSR,NJL 5163-F1-B
	C110	87-010-828-080	CHIP CAPACITOR,U 0.033-	R101	87-022-279-080		C-RES,U 470-1/16W F
	C111	87-A11-056-080	C-CAP,U 1-10 Z F	R102	87-022-279-080		C-RES,U 470-1/16W F
	C112	87-A11-056-080	C-CAP,U 1-10 Z F	R107	87-022-243-080		CHIP RES,U 15K-1/16W F
	C113	87-010-987-080	C-CAP,S 1500P-50 CH	R108	87-022-243-080		CHIP RES,U 15K-1/16W F
	C114	87-010-987-080	C-CAP,S 1500P-50 CH	R109	87-022-292-080		CHIP RES U 330K-1/16W F
	C115	87-012-285-080	C-CAP,U 8200P-50 B	R110	87-022-292-080		CHIP RES U 330K-1/16W F
	C116	87-012-285-080	C-CAP,U 8200P-50 B	R115	87-022-251-080		C-RES,U 33K-1/16W F
	C117	87-012-286-080	CAP, U 0.01-25	R116	87-022-251-080		C-RES,U 33K-1/16W F
	C118	87-012-286-080	CAP, U 0.01-25	R117	87-022-251-080		C-RES,U 33K-1/16W F
	C119	87-A10-828-080	C-CAP,U 0.33-6.3 K B	R118	87-022-251-080		C-RES,U 33K-1/16W F
	C120	87-A10-828-080	C-CAP,U 0.33-6.3 K B	R119	87-022-216-080		C-RES,U 1.1K-1/16W F
	C121	87-A10-827-080	C-CAP,U 0.47-6.3 K B	R120	87-022-216-080		C-RES,U 1.1K-1/16W F
	C122	87-A10-827-080	C-CAP,U 0.47-6.3 K B	R121	87-022-241-080		CHIP RESTOR 12K 1/16W F
	C123	87-A11-056-080	C-CAP,U 1-10 Z F	R122	87-022-241-080		CHIP RESTOR 12K 1/16W F
	C124	87-A11-056-080	C-CAP,U 1-10 Z F	R123	87-022-293-080		CHIP RES U 390K-1/16W F
	C125	87-A11-056-080	C-CAP,U 1-10 Z F	R124	87-022-293-080		CHIP RES U 390K-1/16W F
	C126	87-A11-056-080	C-CAP,U 1-10 Z F	R129	87-022-254-080		C-RES,U 43K-1/16 WF
	C127	87-012-274-080	CHIP CAP,U 1000P-50B	R137	87-022-223-080		CHIP RES 2.2K 1/16W F
	C128	87-012-274-080	CHIP CAP,U 1000P-50B	R804	87-022-255-080		CHIP RES U 47K-1/16W F
	C129	87-A10-025-080	C-CAP,U 0.22-16Z F	R807	87-022-292-080		CHIP RES U 330K-1/16W F
	C130	87-A10-025-080	C-CAP,U 0.22-16Z F	R810	87-022-292-080		CHIP RES U 330K-1/16W F
	C131	87-016-429-080	C-CAP,E 100-4 5.5N	R811	87-022-292-080		CHIP RES U 330K-1/16W F
	C132	87-016-429-080	C-CAP,E 100-4 5.5N	R814	87-022-292-080		CHIP RES U 330K-1/16W F
	C133	87-A11-056-080	C-CAP,U 1-10 Z F	R821	87-022-292-080		CHIP RES U 330K-1/16W F
	C134	87-010-746-080	CAP, TANTAL 10-4	S101	87-036-379-080		C-SW,SL 1-1-2 SS-350-A12B-C-T
	C135	87-A10-952-080	C-CAP,TN 22-4 M A MCM	S102	87-036-379-080		C-SW,SL 1-1-2 SS-350-A12B-C-T
	C136	87-016-562-080	C-CAP,TN 4.7-10	S103	87-A91-455-080		C-SW,SL 1-1-4 SS-350-A14B-C-T
	C137	87-A10-952-080	C-CAP,TN 22-4 M A MCM	S801	87-A90-455-010		SW,PUSH HXW4001
	C138	87-A10-025-080	C-CAP,U 0.22-16Z F	S802	87-A90-356-210		SW,LEAF 6ZM-2
	C139	87-A10-025-080	C-CAP,U 0.22-16Z F	S803	87-A90-665-180		C-SW,TACT LS7A2M
	C140	87-016-562-080	C-CAP,TN 4.7-10	S804	87-A90-665-180		C-SW,TACT LS7A2M
	C141	87-A10-707-080	C-CAP,U 0.47U-16 F Z	S805	87-A90-665-180		C-SW,TACT LS7A2M
	C142	87-A10-707-080	C-CAP,U 0.47U-16 F Z	S806	87-A90-665-180		C-SW,TACT LS7A2M
	C143	87-A10-707-080	C-CAP,U 0.47U-16 F Z	S807	87-036-379-080		C-SW,SL 1-1-2 SS-350-A12B-C-T
	C144	87-A11-056-080	C-CAP,U 1-10 Z F	S808	87-036-379-080		C-SW,SL 1-1-2 SS-350-A12B-C-T
	C145	87-A11-056-080	C-CAP,U 1-10 Z F	S809	87-A91-335-080		C-SW,PUSH 1-1-1 SPVG11
	C146	87-A11-056-080	C-CAP,U 1-10 Z F	SFR401	87-A91-465-040		C-SFR,6.8K H RH03AEC
	C147	87-A10-708-080	C-CAP,U 0.68U-10 F Z	TH401	87-A90-855-080		C-THMS,SC20-3K102K
				VR101	87-A90-116-080		C-VR,RTRY20KCX2V0103
				X801	87-A70-079-110		VIB,XTAL 32.768KHZ M VT-

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
HEAD FLEX C.B			
PH1	87-HK5-608-010		HEAD, ASSY 6ZM-2 (MVA)

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

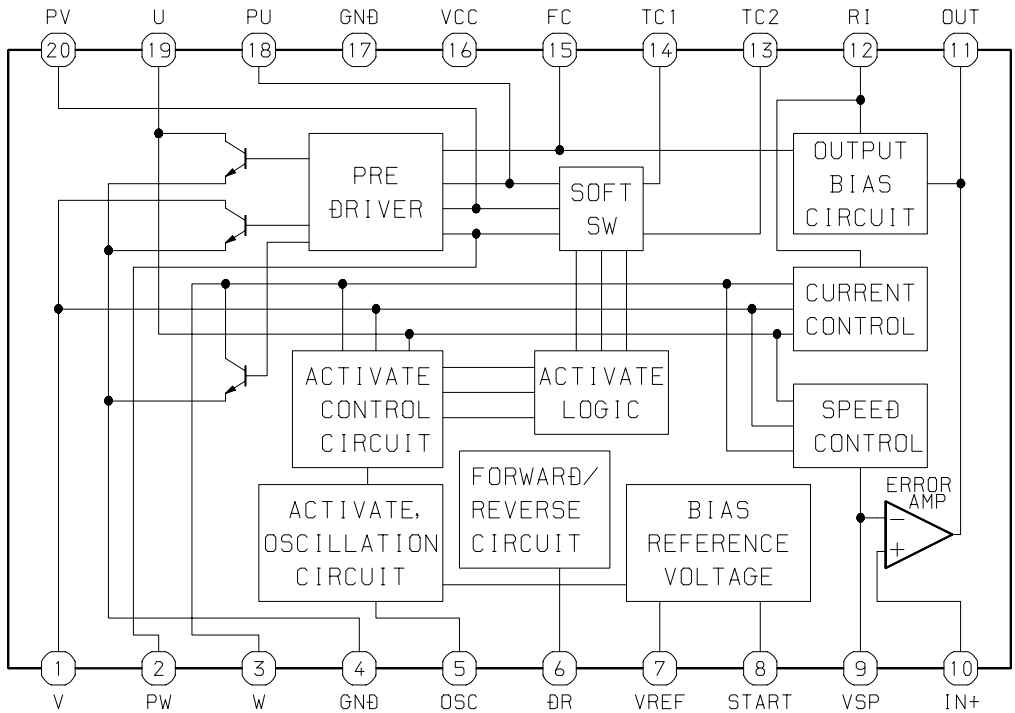


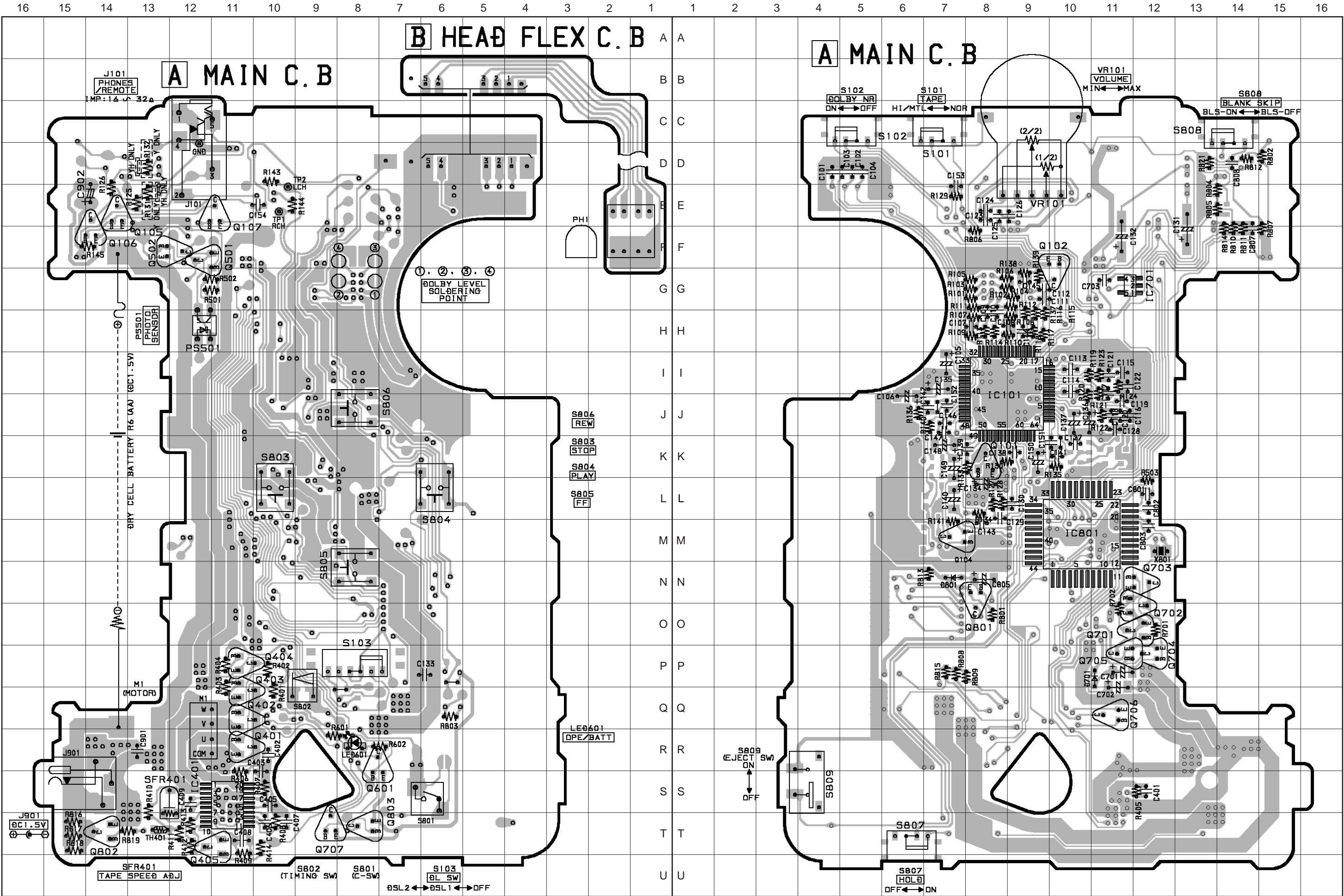
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

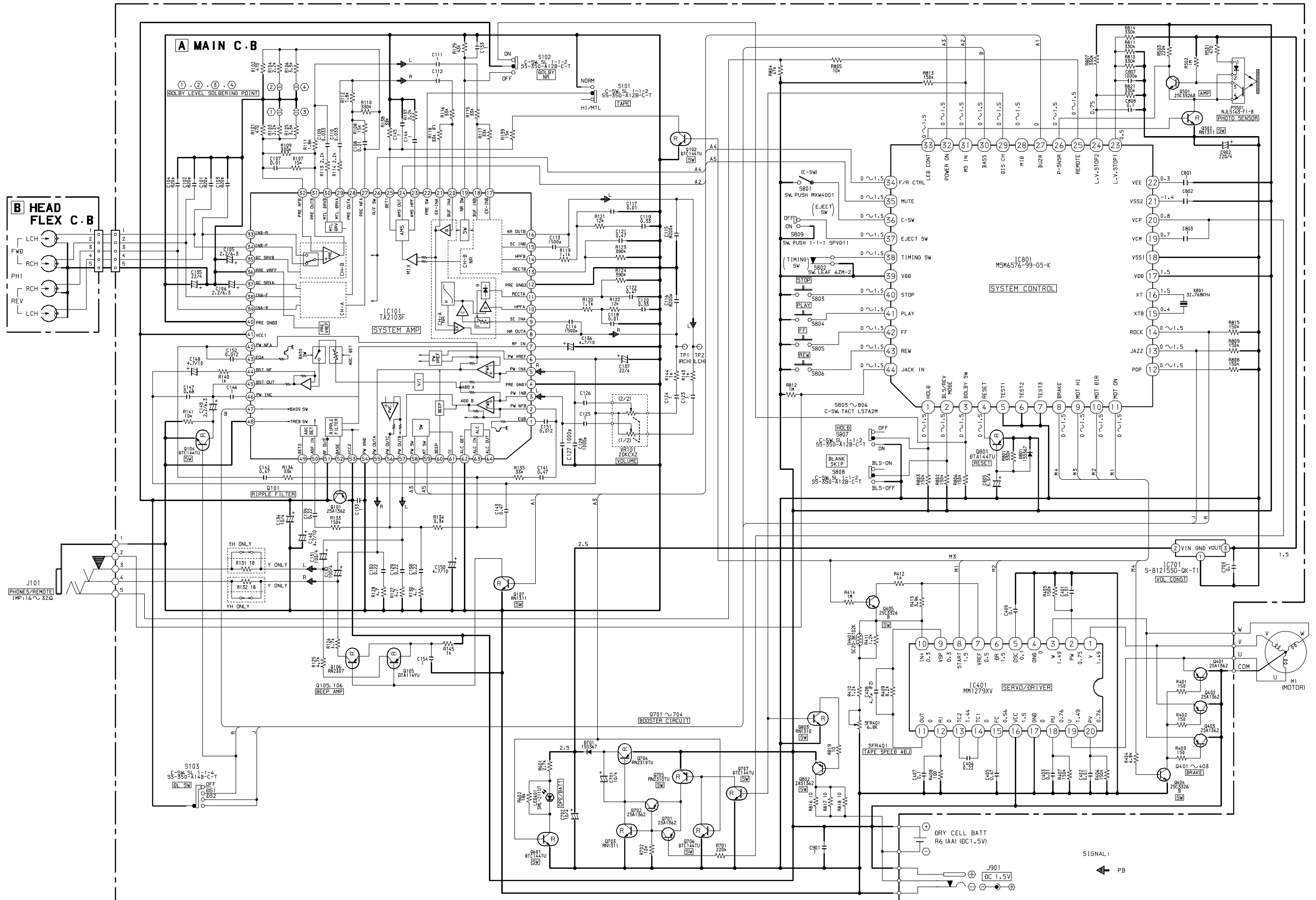
IC BLOCK DIAGRAM

IC, MM1279XV





SCHEMATIC DIAGRAM

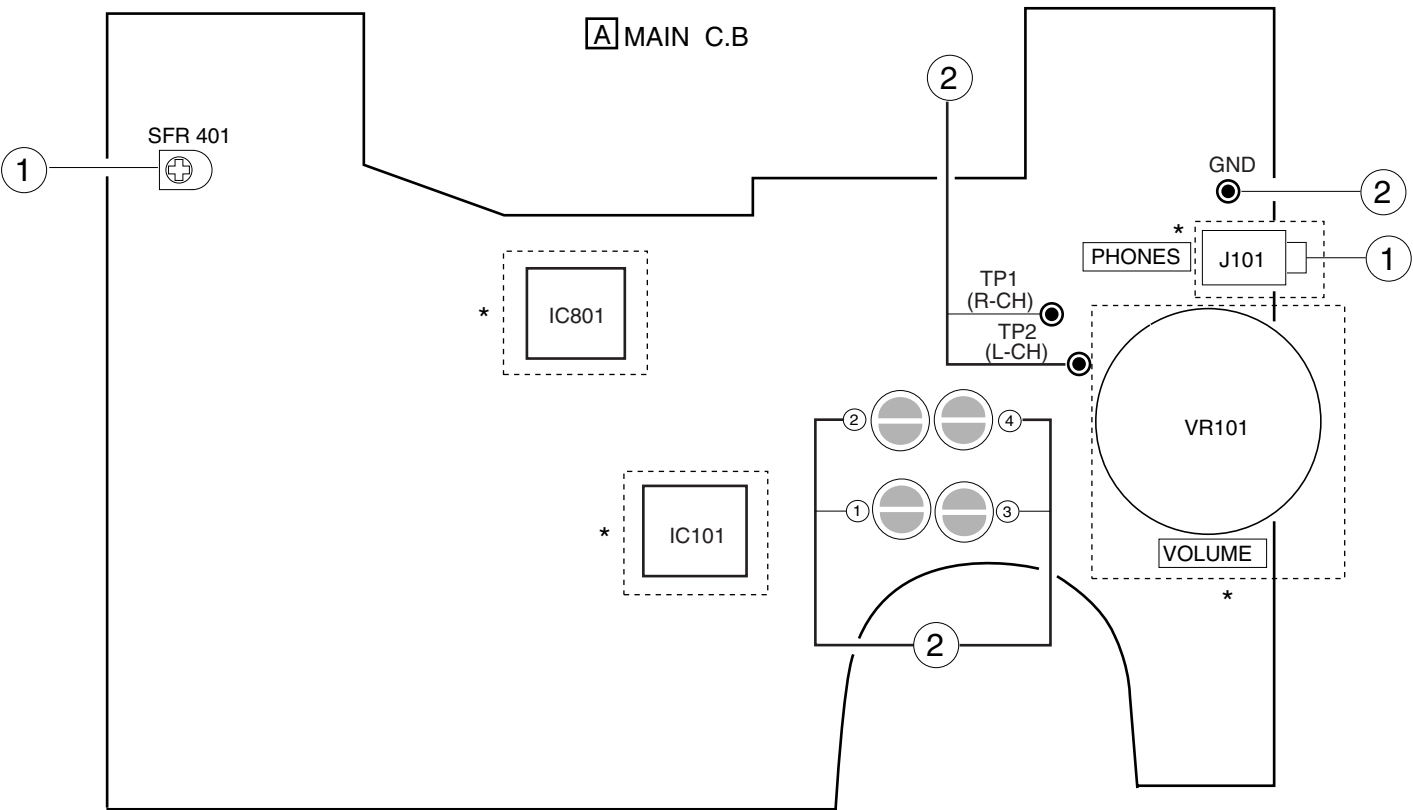


IC DESCRIPTION

IC, MSM6576-99-GS-K

Pin No.	Pin Name	I/O	Description
1	HOLD	I	‘H’: Normal operation, ‘L’: Hold key (main unit side).
2	BLS/REV MODE	I	‘H’ :Endless and BLS ON, ‘L’ :One cyde and BLS OFF.
3	DOLBY SW	I	‘H’: Dolby ON, ‘L’: Dolby OFF.
4	RESET	I	Reset input terminal.
5 ~ 7	TEST1 ~ TEST3	-	Test terminal (connected to ground).
8	BRAKE	O	‘H’: Brake ON, ‘L’ :Brake OFF.
9	MOT HI	O	‘H’: High speed, ‘L’: Normal speed.
10	MOT DIR	O	‘H’ :Clockwise direction, ‘L’ :Counterclockwise direction.
11	MOT ON	O	‘H’: Motor ON, ‘L’: Motor OFF.
12	POP	I	‘H’: POP ON, ‘L’: POP OFF.
13	JAZZ	I	‘H’ : JAZZ OFF, ‘L’ : JAZZ ON.
14	ROCK	I	‘H’ : ROCK OFF, ‘L’ : ROCK ON.
15, 16	XTB, XT	-	Crystal oscillator terminal.
17	VDD	-	Power supply terminal.
18, 21	VSS1, VSS2	-	Ground terminal.
19, 20	VCM, VCP	-	Internal electronic potential generator terminal.
22	VEE	-	Power supply terminal for internal logic.
23	L. V. STOP1	I	Reference input terminal for detection of reduce volatage stop.
24	L. V. STOP2	I	Signal input terminal for detection of reduce volatage stop.
25	REMOTE	I	Key input (remote controller side).
26	P-SNSR	I	Photo sensor input.
27	BUZR	O	Alarm sound output.
28	MID	O	‘H’ :When POP mode, ‘L’ :When not POP mode. (Not used)
29	DIS CH	O	‘H’ :When DIS CH, ‘L’ :When normal.
30	BASS	O	‘H’ :When ROCK, JAZZ mode, ‘L’ :When not ROCK, JAZZ mode.
31	MS IN	I	‘H’ :Exist tune, ‘L’ :Not exist tune.
32	POWER ON	O	‘H’ :Power ON, ‘L’ :Power OFF.
33	LED CONT	O	Photo sensor LED control terminal.
34	F/R CTRL	O	‘H’ :FWD, ‘L’ :REV.
35	MUTE	O	‘H’ :Mute OFF, ‘L’ :Mute ON.
36	C-SW	I	‘H’: Exist cassette tape, ‘L’: Not exist.
37	EJECT SW	I	‘H’: Open cassette cover, ‘L’: Close cassette cover.
38	TIMING SW	I	‘H’ :PLAY, REC PLAY, ‘L’ :No cassette, STOP, FF, REW.
39	VDD	-	Power supply terminal.
40	STOP	I	Stop key input (main unit side).
41	PLAY	I	Play key input (main unit side).
42	FF	I	FF key input (main unit side).
43	REW	I	REW key input (main unit side).
44	JACK IN	I	‘H’ :Disable remote controller key input, ‘L’ :Able input.

ADJUSTMENT



Note :
* : On the other side of the components.

1. Tape Speed Adjustment

Settings :
 - Test tape : TTA – 100 (Tape center)
 - Test point : Phones Jack (J101)
 - Adjustment location : SFR401
 - Dolby NR : OFF
 - MSP : CLASSIC
 - Direction : FWD
 - Tape selector : NORM
 - Volume : MAX

Method : Play back the test tape and adjust SFR401 so that the frequency becomes 3015Hz ± 10Hz. Then confirm WOW is less than 0.55%.
2. Dolby Level Adjustment

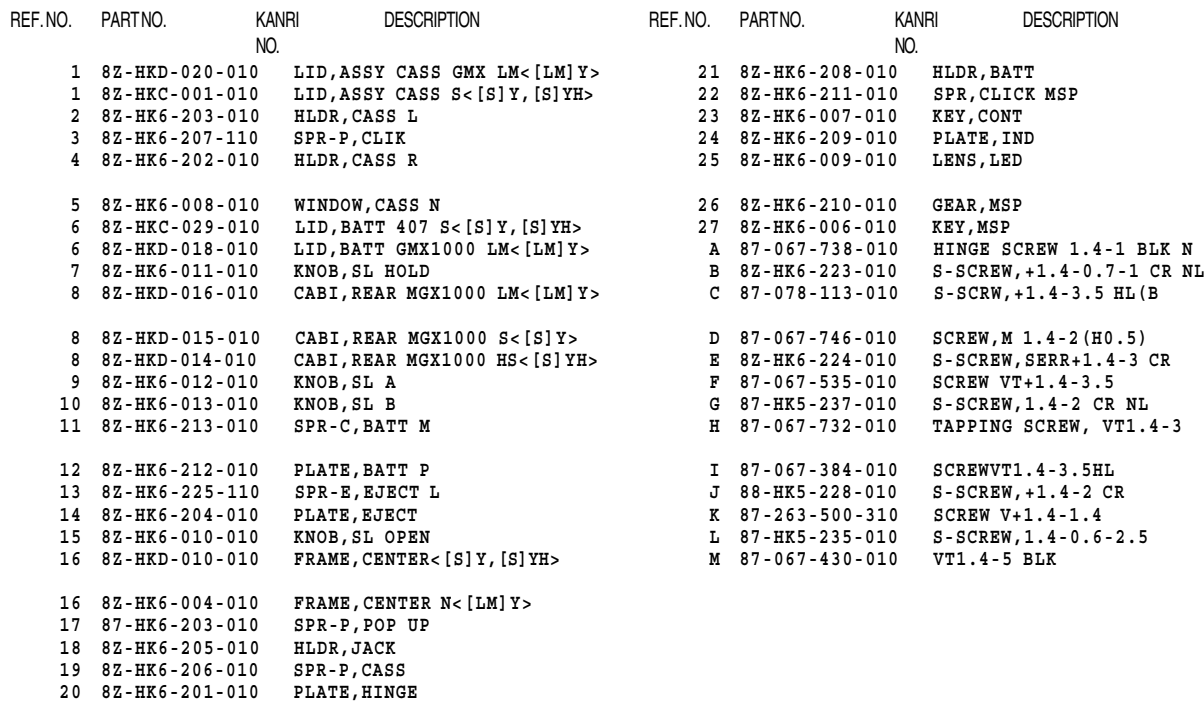
Setting :
 - Test tape : TTA – 200
 - Test point : TP1(Rch),TP2(Lch),GND
 - Direction : FWD
 - Tape selector : NORM
 - Dolby NR : OFF
 - Volume : MIN "0"
 - Adjustment points : Soldered patterns ① – ④

Procedure : Short the patterns via solder as shown in the table so that the Dolby NR level is 24.5mV ± 1.0dB. Adjust so that the specifications are satisfied in both the forward and reverse directions. Connect 10μF /16V coupling capacitors between test points and test equipment (connect the positive terminals to the test points).

SOLDER PATTERN ① – ④
STANDARD : 24.5 mV ± 1.0 dB

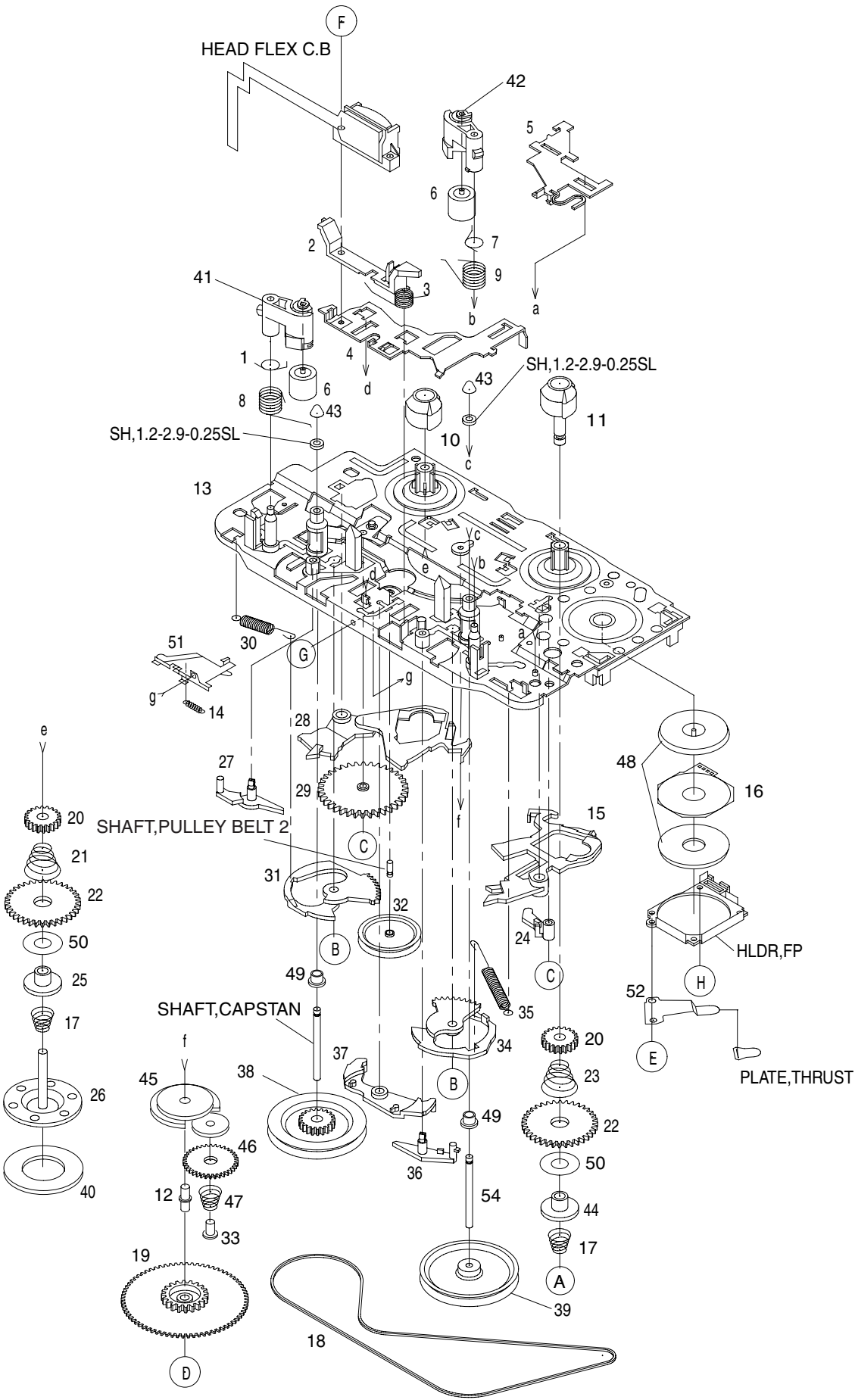
	SHORT	OPEN +
Lch	① only	+1dB
	③ only	+1.5dB
	① and ③	+2.5dB
Rch	② only	+1dB
	④ only	+1.5dB
	② and ④	+2.5dB

MECHANICAL PARTS LIST 1 / 1



Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		

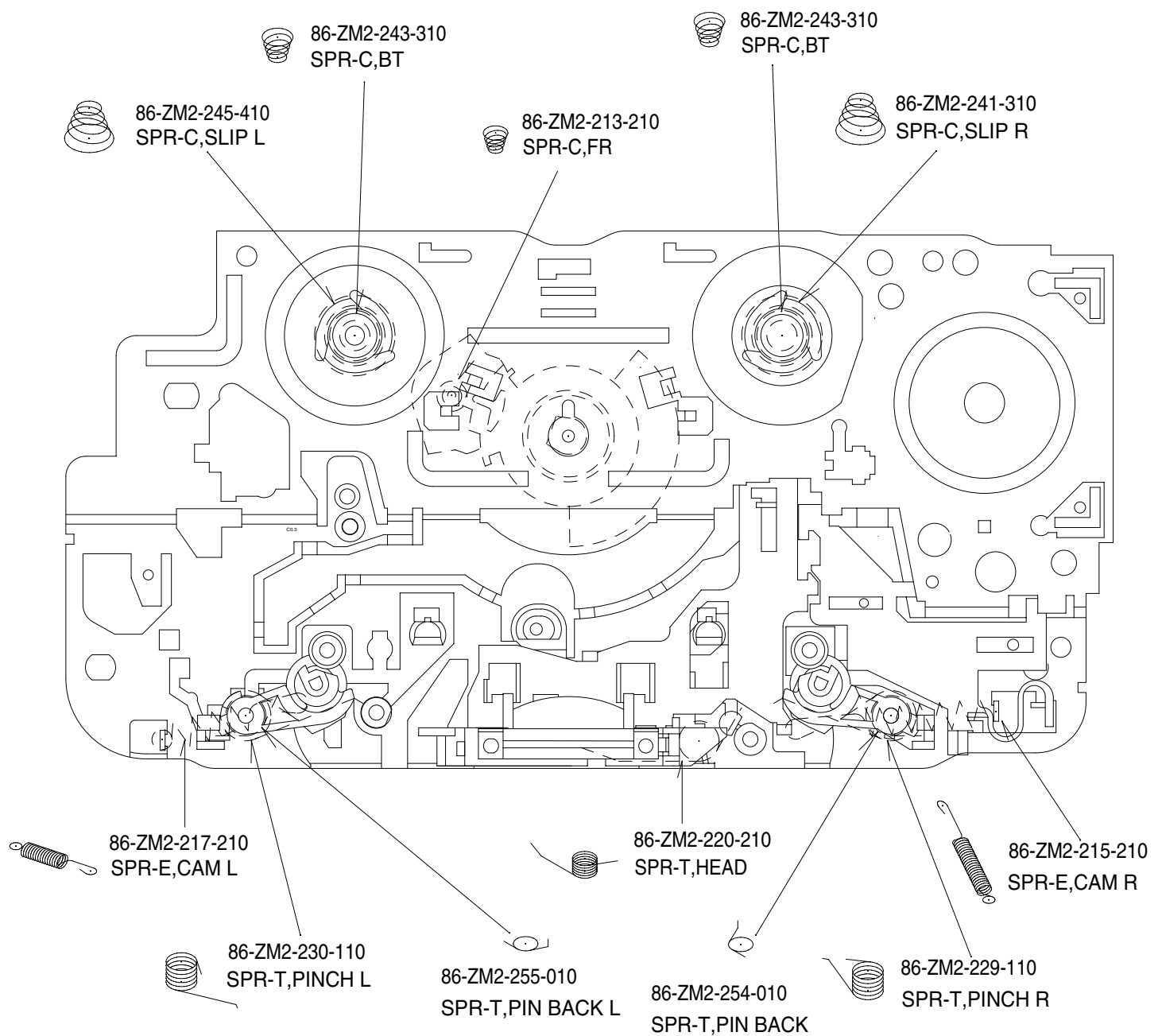
TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION	REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	86-ZM2-255-010		SPR-T,PIN BACK L	31	86-ZM2-216-510		LEVER,CAM L
2	86-ZM2-252-610		GUIDE,TAPE	32	86-ZM2-276-010		PULLEY,COUPLER
3	86-ZM2-220-210		SPR-T,HEAD	33	86-ZM2-212-310		SHAFT,FR
4	86-ZM2-219-510		LEVER,HEAD	34	86-ZM2-214-510		LEVER,CAM R
5	86-ZM2-347-010		LEVER,MS EJECT	35	86-ZM2-215-210		SPR-E,CAM R
6	86-ZM2-226-110		ROLLER ASSY,PINCH	36	86-ZM2-222-410		LEVER,PIN UP R
7	86-ZM2-254-010		SPR-T,PIN BACK	37	86-ZM2-218-310		LEVER,HEAD UP
8	86-ZM2-230-110		SPR-T,PINCH L	38	86-ZM2-205-410		FLY-WHL,L
9	86-ZM2-229-110		SPR-T,PINCH R	39	86-ZM2-330-010		FLY-WHL,R2
10	86-ZM2-240-110		CAP,REEL	40	86-ZM2-282-010		SH,AUTO 2
11	86-ZM2-234-110		SHAFT,REEL R	41	86-ZM2-225-310		ARM,PINCH L
12	86-ZM2-251-310		SHAFT,GEAR B	42	86-ZM2-224-210		ARM,PINCH R
13	86-ZM2-201-E10		CHAS ASSY,OUT-SERT	43	86-ZM2-283-210		CAP,SHAFT
14	86-ZM2-349-010		SPR-E,EJECT	44	86-ZM2-275-310		CAP,SLIP R
15	86-ZM2-232-310		LEVER,REEL R	45	86-ZM2-210-710		LEVER,FR
16	87-ZS6-301-010		COIL,FP 7ZS6	46	86-ZM2-211-210		GEAR,FR
17	86-ZM2-243-310		SPR-C,BT	47	86-ZM2-213-210		SPR-C,FR
18	86-ZM2-329-210		BELT,P5	48	M8-7ZS-690-000		ABL-76 A
19	86-ZM2-209-310		GEAR,B	49	86-ZM2-221-010		CLR,BRG N
20	86-ZM2-238-710		GEAR,FF	50	86-ZM2-239-010		FELT,
21	86-ZM2-245-410		SPR-C,SLIP L	51	86-ZM2-342-010		LEVER ASSY,EJECT
22	86-ZM2-237-010		GEAR,PLAY	52	86-ZS2-312-010		SPR-P,6A-MOT
23	86-ZM2-241-310		SPR-C,SLIP R	A	86-ZM2-278-010		W-P,1.36-4-0.2 SLT
24	86-ZM2-272-010		LEVER,SW P 8.4	B	86-ZM2-319-010		W-L,0.95-3-0.35
25	86-ZM2-236-510		CAP,SLIP	C	87-067-860-010		PW,3-0.95-0.4
26	86-ZM2-235-210		SHAFT,REEL L	D	87-067-516-010		PW,3-1.58-0.25,SLIT
27	86-ZM2-223-310		LEVER,PIN UP L	E	87-067-430-010		VT1.4-5 BLK
28	86-ZM2-233-310		LEVER,REEL L	F	86-ZM2-348-010		S-SCREW,+1.4-4.6
29	86-ZM2-208-310		GEAR,A	G	87-261-500-310		SCREW V+1.4-1.4 (BK)
30	86-ZM2-217-210		SPR-E,CAM L	H	87-067-815-110		VT+1.4-3 (HL)

SPRING APPLICATION POSITION



アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111